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EXAMINER

TRAN, HAI V

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/709,004	Applicant(s) TASH, JONATHAN K.	
	Examiner Hai Tran	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
 4a) Of the above claim(s) 3 and 34 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 43-45 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4, 6-11, 14-17, 19, 25-28, 30-31, 33, 35, 37-42, 46-48, & 50-57 is/are rejected.
- 7) ☒ Claim(s) 5,12,13,18,20-24,29,32,36 and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed on 03/16/2005 have been fully considered but they are not persuasive.

Claims 1 and 33, Applicant argues, Finseth does not list objects based on priority as required by a schedule."

In response, the Examiner respectfully disagrees with Applicant because Finseth discloses program guide objects of an EPG; therefore, Finseth, at least, discloses programs/program guide objects within an EPG based on time, i.e., Fig. 10.

Applicant further argues, "Finseth does not disclose objects that each have utility factors that depend on the object's position in a schedule."

In response, the "utility factor" is broadly interpreted as "state" (available/unavailable) of a program according to broadcasting time slot assigned to a program, i.e. Fig. 14 shows only programs that are available in which viewer might like at current time 3: 21PM and on. Thus Finseth discloses a utility factor (program available based broadcasting time slot) assigned to a program/program object and depending on a program/program object's position (time of day) in a schedule (EPG). The examiner cites "...As time progresses and the scheduling information becomes stale, the general schedule object is no longer needed...", see col. 8, lines 48-53.

Claim 19 and 39, the Examiner refers to the above discussion to answer Applicant argument that "Finseth does not teach a schedule, a utility factor, or a utility factor value that depends on the position of the object in a schedule."

Applicant further argues, "There is absolutely no teaching in Finseth of calculating an overall schedule utility factor or reordering a list of objects to increase the overall utility factor."

In response, the Examiner cites Fig. 10, Col. 15, lines 35-47 to support. Finseth by selecting "Category (News)", the CPU calculates/identifies all of the news programs that have "news" as a category (overall schedule utility factor) stored in the EPG database, list the result of all "news" programs (objects) in time list 140 by reordering a list of objects according to the time order (to increase the overall utility factor) for each of the television "news" program in the list. Thus, Finseth's time order of Fig. 10 corresponds to applicant "increase the overall utility factor" and Finseth's category reads on applicant "overall schedule utility factor".

As to claim 29, the Examiner adversely indicates claim 29 on the Office Action summary as objected to. The Examiner reasserts that claim 29 is rejected as indicated in the body of the Office Action.

Claim 40, Applicant argues, "Finseth does not teach applying scores to objects and certainly does not teach identifying an object with a highest score" and further argues, "Applicant cannot find any discussion of setting a transmit time for an object with a highest score to the time value."

In response, Finseth inherently determines/schedules/assigns a transmit time variable for each program object, i.e., presentation time (time that a program will be show), i.e., starting time.

The system inherently also maintain an timer value, i.e., current time.

Finseth further discloses that the system able to determine/distinguish program objects that are most/closest to the current time, next couple hours or in 12hrs or more. In doing so, Finseth calculates a score for each of program object by calculating on the difference between the transmit time variable (presentation time) and the timer value (current time) so the system able to prioritize the program object, i.e., program objects that are most/closest to the current time have the highest priority. Accordingly, based on the program objects ' score ranking (most/closest to the current time, next couple hours or in 12hrs or more), the system assigns/directs the program object to corresponding cyler for transmission, i.e., most/closest to the current time assign to a cyler 56 with highest transmission rate... In doing so, Finseth sets the transmitting time of the program object to the current time plus interval time of the corresponding cyler according to its score ranking, i.e., most/closest to the current time (Col. 6, lines 50-65+).

Claim 46, Applicant argues, "Finseth does not discloses providing transmit time variables for each object..."

In response, the Examiner respectfully disagrees with Applicant because, as discussed in the above claim 40, Finseth provide a next transmit variable, i.e., "rate", for each program object based on its program objects' score ranking.

"initializing the transmit time variable for each object to a predetermined value" is further met by Finseth, as discussed in the above claim 40, in which program guide is limited to programs that are scheduled to be broadcast in the range of time, i.e., every 4hrs/8hrs/12hrs period. Thus, by cyclically transmitted the EPG, the system must be re-

initialize/reset all parameters/variables of the system to a predetermined value, i.e., zero.

Finseth further discloses, as discussed in the above claim 40, based on the program objects' score ranking, the system selects the corresponding program object with the lowest next transmit time variable (most/closest to the current time) and then assigns/directs the corresponding program object to the corresponding cyler for transmission, i.e., most/closest to the current time assign to a cyler 56 with highest transmission rate. Thus, Finseth discloses "selecting the object with the lowest next transmit time variable".

Finseth further discloses, as discussed in the above claim 40, the cyler transmits the program object every period of time, i.e., 1 sec, thereby Finseth incrementing the transmitting time of the program object by adding the interval time of the corresponding cyler to the current time of the system.

Claim 51, Applicant argues, "Finseth does not disclose a schedule" and "There is absolutely no teaching in Finseth of calculating a priority score."

In response, the Examiner respectfully disagrees with Applicant because Finseth discloses a schedule, i.e., program guide or schedule guide, see Fig. 5-8; Col. 5, lines 54-63.

As to "calculating a priority score", the Examiner refers to the above discussion of claim 40.

For at least the reason set forth above, the rejection is maintained.

Allowable Subject Matter

Claims 43-45 are allowed.

Claims 5, 12, 13, 18, 20-24, 29, 32, 36 and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-2, 4, 6-11, 14-17, 19, 25-28, 30-31, 33, 35, 37-42, 46-48, and 50-57 are rejected under 35 U.S.C. 102(e) as being unpatentable by Finseth et al. (US 6742184).

Claim 1. Finseth discloses a method for delivering objects to one or more receiver units (Fig. 1-3), comprising:

receiving a number of incoming objects, each object corresponding to one or more classes (Fig. 1-2, el. 24; Col. 6, lines 13-36);

maintaining objects from a variety of classes in an object schedule (Fig. 2, el. 54; Col. 6, lines 35-42); and wherein each object has a utility factor (the "utility factor" is broadly interpreted as "state" (available/unavailable) of a program according to broadcasting time slot assigned to a program, i.e. Fig. 14 shows only

programs that are available in which viewer might like at current time 3: 21PM and on. Thus Finseth discloses a utility factor (program available based broadcasting time slot) assigned to a program/program object and depending on a program/program object's position (time of day) in a schedule/EPG), and the value of the utility factor is dependent, at least to some degree, on the position of the object in the object schedule (Col. 7, lines 57-Col. 9, lines 58 and Col. 8, lines 48-53).

delivering selected objects from the object schedule to the one or more receiver units based on the position of the object in the object schedule (Fig. 1, el. 42, 28, 30; Col. 6, lines 51-65+).

Claim 2, Finseth further discloses wherein objects from a variety of classes are maintained by determining which of the incoming objects are to be added to the object schedule and which of the cached objects in the object schedule are be evicted, such that objects from a variety of classes are maintained in the object schedule (Col. 8, lines 48-65+).

Claim 4, Finseth further discloses wherein each class has a utility factor that is calculated by combining, via a sub-linear function (time function), the utility factors of those scheduled objects that correspond to the class (Col. 8, lines 26-52).

Claim 6, Finseth further discloses wherein the object schedule has an overall schedule utility factor, the overall schedule utility factor is calculated by combining via a schedule function the utility factors for each of the classes (Col. 8, lines 40-65).

Claim 7, Finseth further discloses wherein the schedule function is a summing function (entire schedule information; Col. 8, lines 40-65).

Claim 8, wherein objects from a variety of classes are maintained in the object schedule by receiving a new object; scheduling the new object in an initial position within the object schedule; and reordering the scheduled objects so that the overall schedule utility factor is increased (Col. 6, lines 50-65+).

Claim 9, Finseth further discloses wherein each object in the object schedule has an estimated time for delivery based on the position of the object in the schedule (Col. 8, lines 10-17).

Claim 10, Finseth further discloses wherein each object in the schedule has an importance factor (Col. 6, lines 60-65+).

Claim 11, Finseth further discloses wherein the utility factor for each object is dependent on the estimated time for delivery and the importance factor (Col. 6, lines 60-65+).

Claim 14, Finseth further discloses wherein each object in the schedule is a member of one or more classes, and the utility factor for each object is dependent on a Classvariety score of each of the member classes (Col. 7, lines 10-Col. 10, lines 27).

Claim 15, Finseth further discloses wherein the Classvariety score for each class is a measure of the number of member objects of the class that were previously broadcast and/or are scheduled to be broadcast (Col. 8, lines 10-40).

Claim 16, Finseth further discloses wherein the contribution of each object to the Classvariety score decreases with time (Col. 8, lines 48-65).

Claim 17, wherein each class has a class importance factor (Col. 6, lines 60-65+).

Claim 19, Finseth discloses a method for scheduling objects for delivery to one or more receiver units, the method comprising:

receiving one or more incoming objects, each having a utility factor (Col. 6, lines 13- 50);

scheduling the objects for delivery in an initial scheduling order, the value of the utility factor for each of the objects being dependent, at least to some degree, on the position of the object in the schedule (Col. 6, lines 52-Col. 7, lines 7);

“calculating an overall schedule utility factor for the schedule by combining the utility factors of each of the scheduled objects using a predefined function” reads on Finseth in which by selecting “Category (News)”, the CPU calculates/identifies all of the news programs that have “news” as a category (overall schedule utility factor) stored in the EPG database, list the result of all “news” programs (objects) in time list 140 by reordering a list of objects according to the time order (to increase the overall utility factor) for each of the television “news” program in the list (Col. 7, lines 10-40 and Fig. 10, Col. 15, lines 35-47);

reordering the scheduled objects so that the overall schedule utility factor is increased and delivering one or more of the objects from the top of the schedule (Col. 6, lines 60-65+);

Claim 25, Finseth further discloses wherein the utility factor of an object is higher than another similarly situated object if the object is more timely (Col. 8, lines 40-Col.9, lines 8).

Claim 26, Finseth further discloses wherein the utility factor of an object increases the overall schedule utility factor more than another similarly situated object if the object provides more variety to the object schedule (Col. 8, lines 35-40).

Claim 27, Finseth further discloses wherein each object in the schedule has an estimated time for delivery based on the position of the object in the schedule, and the value of the utility factor for the object is dependent on the estimated time for delivery (Col. 6, lines 60-67).

Claim 28, Finseth further discloses wherein the estimated time for delivery of each object is calculated by estimating a current channel bandwidth for delivery of the scheduled objects; and calculate an estimated time for delivery for each object using the size of each scheduled object and the estimated channel bandwidth (Col. 5, lines 28-Col. 6, lines 33).

Claim 29, Finseth further discloses wherein each object in the schedule is a member of one or more classes, and the value of the utility factor for each class is dependent on a measure of the objects assigned to the class (Col. 34-65+).

Claim 30, Finseth further discloses wherein the measure of the objects is the number of objects assigned to the class (Col. 7, lines 11-32).

Claim 33 is analyzed with respect to method claim 1.

Claim 35 is analyzed with respect to method claim 4.

Claim 37 is analyzed with respect to method claim 6.

Claim 38 is analyzed with respect to method claim 7.

Claim 39, Finseth discloses a system for scheduling objects for delivery to one or more receiver units is analyzed with respect to method claim 19.

Claim 40, Finseth discloses a method for transmitting one or more objects to one or more receiver units, wherein each object has one or more data packets, comprising:

providing a transmit time variable for each object (Finseth inherently determines/schedules/assigns a transmit time variable for each program object, i.e., presentation time (time that a program will be show), i.e., starting time; Col. 6, lines 13-42);

initializing the transmit time variable for each object to a predetermined value; maintaining a timer value (The system inherently also maintain an timer value, i.e., current time);

“calculating a score for each object, wherein the score is dependent on the difference between the transmit time variable for each object and the timer value” reads on Finseth in which the system able to determine/distinguish program objects that are most/closest to the current time, next couple hours or in 12hrs or more. In doing so, Finseth calculates a score for each of program object by calculating on the difference between the transmit time variable (presentation time) and the timer value (current time) so the system able to prioritize the program object, i.e., program objects that are most/closest to the current time have the highest priority.

“transmitting one or more packets of the object with the highest score; and setting the transmit time for the object with the highest score to the timer value” reads on Finseth in which based on the program objects’ score ranking (most/closest to the current time, next couple hours or in 12hrs or more), the system assigns/directs the program object to corresponding cyler for transmission, i.e., most/closest to the current time assign to a cyler 56 with highest transmission rate... In doing so, Finseth sets the transmitting time of the program object to the current time plus interval time of the corresponding cyler according to its score ranking, i.e., most/closest to the current time (Col. 6, lines 50-65+and Col. 8, lines 40-65).

Claim 41, Finseth further discloses wherein each object has a transfer rate, and the score for each object is dependent on the transfer rate (Col. 6, lines 53-67).

Claim 42, Finseth further discloses determining if the last transmitted packet was the last packet of the object with the highest score; and removing the object with the highest score if the last transmitted packet was the last packet of the object with the highest score (Col. 8, lines 53-65).

Claim 46, Finseth discloses a method for transmitting one or more objects to one or more receiver units, wherein each object has one or more data packets, comprising:

providing a next transmit time variable (i.e., "rate" variable for each program object based on its program objects' score ranking, analyzed in claim 40) for each object (i.e., next 5 sec; see Col. 6, lines 54-57);

"initializing the next transmit time variable for each object to a predetermined value" is further met by Finseth, as discussed in the above claim 40, in which the displayed program guide is limited to programs that are scheduled to be broadcast in the range of time, i.e., 4hrs/8hrs/12hrs period of each day. Thus, by cyclically transmitted the EPG, the system must be re-initialize/reset all parameters/variables of the system to a predetermined value so to be able to present to user an updated EPG; see Col. 6, lines 54-57.

"selecting the object with the lowest next transmit time variable" is further met by Finseth, as discussed in the above claim 40, based on the program objects' score ranking, the system selects the corresponding program object with the lowest next transmit time variable (most/closest to the current time) and then assigns/directs the corresponding program object to the corresponding cyler for transmission, i.e., most/closest to the current time assign to a cyler 56 with highest transmission rate; see Col. 6, lines 54-57;

transmitting one or more packets from the selected object; and incrementing the next transmit time variable for the selected object by an incremental value (the cyler transmits the program object every period of time, i.e., 1 sec, thereby Finseth incrementing the transmitting time of the program object by adding the interval time of the corresponding cyler to the current time of the system; Col. 6, lines 54-57);

Claim 47, Finseth further discloses a method according to claim 46 further comprising the step of repeating the selecting, transmitting and incrementing steps (Col. 6, lines 53-57).

Claim 48, Finseth further discloses wherein the incremental value is dependent on the transfer rate for the selected object (Col. 6, line 63-65).

Claim 50, Finseth further discloses determining if the last transmitted packet was the last packet of the selected object; and removing the selected Object if the last transmitted packet was the last packet of the selected object (Col. 8, lines 48-52).

Claim 51, a method for scheduling objects for delivery to one or more receiver units, the method is analyzed with respect to claim 40.

Claim 52, Finseth further discloses wherein the expected incremental value of an object is determined by calculating the utility of the object schedule with the object minus the utility of the object schedule without the object (Col. 8, lines 49-65).

Claim 53, Finseth further discloses wherein the expected incremental value for each object is discounted by an exponential factor with time (time progress; Col. 8, lines 49-65).

Claim 54, Finseth further discloses wherein the priority score of an object is related to the derivative of the discounted incremental value of the corresponding object (in function of time; Col. 8, lines 49-65).

Claim 55, Finseth further discloses wherein the expected incremental value of each object is related to the remaining lifetime of the object (duration time of an object; Col. 8, lines 49-65).

Claim 56, Finseth further discloses wherein the expected incremental value of each object is related to the freshness of the object (new object; Col. 8, lines 49-65).

Claim 57, Finseth further discloses wherein the expected incremental value of each object is related to the timeliness of the object (start time of an object is closed to the current time; Col. 8, lines 49-65).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

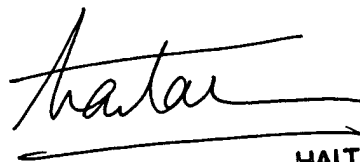
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Tran whose telephone number is 703-308-7372. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher C. Grant can be reached on 703-305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT:ht
06/20/2005

A handwritten signature in black ink, appearing to read "HAITRAN", with a horizontal line drawn underneath it.

**HAITRAN
PRIMARY EXAMINER**